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HENRY T. WILLIAMS.
A. SEARS, SC.

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The Rural Club of New York.

THE June session of the Club was held on the 18th, at Delmonico's, where an elegant dinner had been provided. Hon. Horace Greeley, President of the Club, presided, and introduced the principal speaker of the evening, Mr. S. B. Parsons, of Flushing, L. I., who read an admirable paper upon the Encouragement of the Culture of *Ornamental Plants*. Referring to an early experience in a city store, in the hardware trade, he institutes a pleasant simile between his wishes for the *Jewelry* of the shop and the Jewelry of the Lawn and Ornamental Grounds.

Hardware vs. Jewelry.

Sometimes I would stop at a jeweler's window and feast upon the beautiful things there assembled—the gold and silver ornaments, the diamonds and emeralds, the garnets and the topaz, the opals and the pearls. Then turning regretfully away, I would think of the trace-chains and the spades, the sledge hammers and the anvils, and resolve that if ever I went into business for myself I would sell jewelry and not hardware. When my store experience was over, and I decided to make my home and business in the country—on the spot where my fathers for two hundred years had lived and worked before me—I still recollected my comparison of jewelry and hardware. I became a grower of trees, but in this there was yet no demand for jewelry—the public taste demanded nothing more than fruit and the more common ornamental trees. My fondness for jewelry still remained, however, and as years wore on I gradually gathered together around my dwelling those fine trees and shrubs which faith in the improvement of horticultural taste had led us to introduce into the nursery. That faith has been often shaken by the slowness with which intelligent horticulturists would recognize and appreciate the most beautiful things. Men would expand their nostrils over the aroma of a fine grape or expatiate with enthu-

siasm upon the vinous flavor of a new pear, who were entirely insensible to the beauty which appeals to the eye. We once had the pleasure of receiving in our grounds a botanical club, composed of genial and charming men, at whose feet I would be willing to sit and learn the botanical knowledge which they could impart. But to these very intelligent men the beautiful form and color of the Glyptostrobus, or the glossy, dark richness of the Picea Nordmanniana brought no kindling of enthusiasm; the varied charms of some 200 varieties of conifers brought little interest. A new weed, however, which our men had vainly endeavored to extirpate, met their eyes. It was a stranger out of its native habitat, and they gathered around it with all the interest which a painter feels when he has discovered in some unexpected place a veritable Rubens or Correggio.

Need of Improvement in Tastes of Wealthy Proprietors of Estates.

A gentleman of abundant property once came in the nursery to purchase trees for a place he had been forming at an expense of some $75,000. Nature and art had given him the groundwork; he needed only jewelry for the filling. This we urged him to take, but he was satisfied with hardware, and did not wish to waste money. For a place costing $75,000 his bill was less than $75. Others would come and would appreciate, but the price would frighten them. They would be charmed with a golden yew two or three feet high, with foliage shining like burnished gold, and, on receiving a response to their inquiries about price, would reply, "Why! I can buy a white pine or Norway spruce three times as large for one-third the price." Such men wanted hardware; they could not realize why a diamond an inch in diameter should cost more than a piece of granite of the same size. In their eyes a stone was a stone after all. The same with a rhododendron which had required eight to ten years to grow. They could not understand why it should be worth more than a spiræa or lilac. When the *lilium auratum* first came out we sold the few bulbs in our possession at $80 each, but it was to foreign houses; no one in this country would pay it.

There is, however, a marked improvement manifesting itself, and the horticultural journals are rapidly educating the people to horticultural esthetics. They will come right in time, and in the meanwhile I sit on my piazza and enjoy my jewelry more than any lady enjoys her diamonds. They may sparkle in the gaslight, but my jewels charm most in the sunlight. In the morning, when the drops of dew glisten in the sun, they always charm, but the true time to see them in their beauty is an hour before sunset, when the sun just kisses the tops, and the body is toned down to the deeper shadow thrown upon the grass. They are so planted that the finest are always in my field of vision, the lighter shades being relieved against the darker.

Ornamental Standard Trees.

My eye always turns with pleasure to the Chinese Cypress, known to botanists as *Glyptostrobus Sinensis*. Of all pyramidal trees it is the most perfect in its form—straight as an arrow, compact in its habit, perfectly regular in its cone, and well defined in its outline. Its color is unequaled by that of any other tree—a light pea-green of a most refreshing tint. Its leaves are like small twisted cords, delicate as the edging of a lady's collar, and in mass giving the appearance of green feathers.

My specimen is twenty-five feet high, and I do not doubt it will reach 75 or 100 feet. Could I have but one tree near my house, that tree should be the Chinese Cypress. Although a conifer, it is deciduous, and were it possible to obtain large trees in quantity, it would be the very finest street tree known. Too much shade is becoming a great evil in the streets of American villages, and this tree forming the best possible vista, would give a light protection from the sun without dense shade. A ride of a mile through a street lined with Chinese Cypresses 50 feet high, would be an event to be remembered.

The Kentucky Coffee Tree, or *Gymnocladus Canadensis*, has many beautiful characteristics, and I always like to look upon it. Its naked, unclothed branches, in the Winter, are stiff and sturdy and strong—fitted, you think, to endure the strongest winds. It is rather late in the Spring, and its foliage then lies in separate masses, each seeming a horizontal layer by itself. Belonging to the leguminous family, it has a leaf which resembles that of the locust, with a more bluish green tint. Its shade is not dense, like that of the maples, and its whole aspect is light and airy, with a certain nobility of tone which makes our specimen, 50 feet high, a tree to be noted. Could I have but two trees on my lawn, the second should be the Kentucky Coffee Tree. Its late vegetation, and its moderately dense shade make it one of the very best trees for street planting.

Weeping Trees.

The Weeping Beech, or *Fagus sylvatica pendula*, is a tree of great beauty. Our specimen, 40 feet high, covers an area of 2,000 square feet. Unlike many weeping trees it grows upward and then throws its branches down in all sorts of fantastic shapes. Looking upon it from the outside it seems like a cathedral built by one of the old masters of architecture. Enter through its branches, which sweep the ground, you find yourself in a natural arbor, fit for all those pleasant things which young men and maidens enjoy but never mention to unappreciative ears. Look up, and you see a sturdy trunk with a bark like a rhinoceros's hide, and supporting limbs twisted and gnarled as if nature were trying to show how picturesque and beautiful so crooked a thing could be.

No tree in our grounds elicits so many expressions of wonder and admiration. I would suggest one employment for the weeping beech which would, I think, produce very striking effects. Plant 20 feet apart in an avenue 30 feet wide, trim up in the inside branches 15 or 20 feet, and allow the outside branches to sweep the ground. In this outside wall cut small gothic openings as high as a carriage window. In process of time there will be a perfect arcade, dense on the outside, picturesque on the inside, with glimpses of scenery through the gothic windows.

A near relative of the above is the cut-leaved or Fern-leaved Beech, *Fagus heterophylla*, with conical form, well-defined outline, and deeply cut, close foliage. A fine specimen of this is well known to the frequenters of Newport, and no lawn should be without it. Another indispensable relative is the Purple Beech, *Fagus purpurea*. It has a very dark foliage, and forms a fine contrast with the Chinese Cypress; planted alternately with it on an avenue, the contrast of color would produce a striking effect. For a lawn it is indispensable; the new growth is exceedingly rich, and by its darkness throws into relief the lighter foliage of other trees,

The Weeping Sophora makes a perfect arbor, not reaching a height very much greater than that at which it was grafted; its branches curve gently to the ground like the ribs of an umbrella, and its graceful, delicate foliage, with a locust tint, fills up the vacant spaces. Few trees are so beautiful, and no one so unique in its form. Being of small size, it is well fitted to be near a dwelling. The Weeping Larch is another picturesque tree, and its drooping habit entirely different from that of the Sophora. It throws out several long, spreading arms, sloping gently upward from the body, like the neck of a giraffe, and from these branches droop the lateral shoots. It is, like the Sophora, admirably adapted to rock-work, and its grotesque appearance makes it an object of note upon a lawn.

The Kilmarnock Weeping Willow is noted for its regular umbrella-like shape. Always growing down, it is well adapted for a small lawn, and forms a beautiful head when grafted sufficiently high.

Magnolias.

The Magnolias are indispensable to any place, whether small or large. The Chinese varieties are very showy in the early Spring. The flowers come out in the most abundant profusion before the leaves appear, and the foliage is good. Among these *Conspicua* is pure white, and the most admired; *Soulangiana* has a purplish base to its petals, and *Norbetiana* is a variety making as large a tree as Conspicua, and having a very beautiful flower, the outside of which is a deep, rich-veined crimson, and the inside a delicate, pearly white. A dwarf variety from Japan, white and fragrant, is also a fine acquisition. These two last are yet rarely for sale in the nurseries. The *Gracilis*, a variety of the old and well-known *Obovata*,, is a shrub rarely reaching over four feet in height, but spreading widely over the ground. Among those blooming after the leaves are formed, the *Cordata*, a native of the United States, is a second-class tree, producing yellow flowers twice in the season. The *Macrophylla* has the largest flower and leaf of any tree known in this latitude. I have measured a single half-opened bud 14 inches long. The *Glauca*, the flowers of which are brought to the city in June and sold in the streets, is quite fragrant and a well-known favorite.

Shrubs and Vines.

The *Stuartia* is a high shrub of good leaf and form, and bearing in August, when bloom is scarce, a profusion of white flowers, with crimped petals and of great beauty. The *Kolreuteria* is a second-class tree with glossy dark green leaves, and crowned by long upright spikes of yellow flowers. Among second-class trees, or rather large shrubs, there is nothing which can surpass the *Chionanthus*, or White Fringe. Its snow-white abundant bloom is delicate and graceful beyond comparison. A very attractive companion for it is the *Rhus Cotinus*, or Purple Fringe, sometimes called Smoke-tree. The *Salisburia*, or *Gingko*, is a tree marked by peculiar fern-like leaves and upright growth.

The *Virgilia* is a native of Kentucky and Tennessee. It is of the second class, has a light, graceful foliage, and when of some age produces numerous racemes of white flowers resembling the Wistaria. Two weeks ago my specimen was a mass of the purest white. The beauty of the Chestnut, the Tulip Tree and the Liquidambar is well known. For street trees of denser shade than Chinese Cypress there can be

nothing better, and with them will compare favorably the Maples, Lindens and Hickory, which are too well known to need description. The Oaks can be used for the same purpose. An avenue which we planted some years since with Overcup, Willow Pin and Chestnut Oaks is now much admired.

My allotted time of fifteen minutes will scarcely allow me to describe many other beautiful trees and shrubs, some of them only recently introduced. I can only allude to the *Double Flowering Cherry*, *Alus Imperialis*—pyramidal and with delicate foliage, the Pyramidal Oak, the Dogwood—well-known; the Dwarf Horse-chestnut—a spreading and showy shrub; the Double White and Scarlet Hawthorn, with the very fragrant single Hawthorn, of which my specimen has a trunk over eight feet in circumference; the *Andromeda arborea*, a large shrub with leaves finely tinted both in Spring and Autumn; the Purple Oak, very slow in growth but dark as a copper beech; the various gold and silver edged Oaks, the Red Horse-chestnut, with showy and abundant bloom, and the well-known white and purple Lilacs, the delicate fragrance of whose young leaves is full of pleasant associations. Among shrubs the one *par excellence* that I should have, if I could only have one, is the Japan Hydrangea. Its habit and foliage are very good, and its long racemes of flowers changing from green to white and from white to pink, continue from the 1st of September until after frost. The Oakleaf Hydrangea is like the Japan, a shrub, and although not so striking for its flowers, is unsurpassed in the Autumn tints of its foliage.

The *Viburnum plicatum*, or new snowball; the Japan Quince; the Calycanthus, or sweet-scented shrub; the Ghent Azalea, with its hundred varieties; the *Deutzia*, with its snow-white flowers; the Evergreen Thorn, with its showy Autumn berries; the Forsythia, with its golden bloom; the fragrant Syringo; the numerous varieties of *Spirea*; the very graceful and showy *Tamarix*, and the various and well-known *Weigeleas* are all worthy of more detailed description than my time will allow.

Among vines and creepers, the *Bignonia* and *Wistaria* are most valuable for covering large spaces. The flowers of the latter are well known and unsurpassed. The *Akebia quinata* is always admired. The Clematis has many and very showy varieties, and the various Honeysuckles are well-known treasures in every country household.

The Destruction of Evergreens.

I have left evergreens to the last and approach them with reluctant steps, as men approach the dead. A severer battle than we have ever known has been waged with sun and frost, and although we are not conquered, we gather up our dead as men gather their friends from a human battle-field. The worst of it is that we can learn no lesson from our losses. The plants native to northern regions, like the Hemlock and the Arbor vitæ, have suffered most severely, while those which have been considered most tender have entirely escaped. Of groups of them one is unhurt and two are killed root and branch. One English yew in my grounds is entirely dead, while another in the same grounds is very little injured. One *Picea Cephalonica* and one *Picea Parsonsii* dead, and one of each in the same grounds unhurt. One-half in length of a hedge of Siberian Arbor vitæ killed, the other half fresh, green and unhurt. A hedge of evergreen thorn, four years old, with the tops killed, and at a

short distance another one year old unhurt, while the young plants in the nursery are coming out fresh and green as ever. Rhododendrons in the open ground are uninjured. They are simply made deciduous. The old leaves fall off and young shoots come out in great abundance. Thus we learn nothing from our losses, and must consider them simply accidents, which will probably not occur again, and which need not discourage us from planting as before. My theory of the cause of this injury will, I think, be verified by the facts. It must be recollected that we often have a warm season in January, and sometimes in March, succeeded by intense cold, but without any injury to plants. The last Winter was one of very steady cold, and there was no warm weather either in January, February or March. We must not then attribute to frost alone the disastrous effects. The ground has never been filled with moisture since the dry year of 1870. The rains of last Summer did not penetrate deeply, and the whole of last Winter was so free from rain that nearly all cisterns were exhausted. The soil, therefore, became as dry as dust. Now, it is well known that if the root of a plant is exposed to the open air when the cold is extreme, it will perish, but if it is covered in the earth it is safe. The moisture in the ground, freezing with the earth, forms a casing around the roots through which the cold cannot penetrate. But if the soil is perfectly dry, there is no solid encasement for the roots, and the frost passes freely in killing the delicate fibers. Such was the state of the soil last Winter, and the result seems perfectly natural. I mourn the loss of some of my finest evergreens, because they are my companions in Winter, when, without them, the whole landscape is dreary. I would like to give you some of the peculiarities of these friends of mine, but I have already occupied so much time that I will reserve it for a future occasion. In conclusion I will urge upon you, when planting upon any ground that is intended to be your home, to use hardware for the setting only of the more precious jewelry.

Views and Experiences.

The closing portion of Mr. Parsons' paper prompted some discussion and statements of experience.

Mr. Greeley said his observation had been that those evergreens died which were sheltered from the weather, while others, of the same variety, standing in more exposed situations, came out in Spring unharmed, or, at worst, only slightly affected. On his own farm this was almost invariably true. In the warm, sunny nooks the sap started in February, then came the biting frost, and death ensued. In his opinion, two-thirds of all the evergreens that were killed, were killed by the tremendous freeze in early March. Just such trees as were destroyed round about New York and on Long Island, passed unscathed through the more vigorous but more uniform Winter in New Hampshire. Mr. Greeley mentioned incidentally that the Red Cedar dies very much sooner in Westchester county now than it did 30 years ago, for the probable reason that the seasons are more suddenly changeable. He also remarked that in the same ground he had observed the extreme killing out of a great many Red Cedars, while not one Hemlock was touched.

Mr. Ely spoke of evergreens standing in certain portions of Connecticut, where the surface of the land is almost level. Some that were protected on the north and

west are stout and healthy now as ever they were in the world, while others, fully exposed to the storms and winds, died by the thousand. This fact would seem to indicate that sheltered situations are not always the worst for evergreens.

Charles D. Bragdon gave the opinion that a more general protection of the roots by mulching would have saved many, and he questioned whether it would not be worth while for the Club to recommend this as a preventive.

Frank D. Curtis said he lost only one evergreen on his farm in Saratoga County, N. Y., and it was standing in a thoroughly sheltered nook similar to that described by Mr. Greeley.

Mr. Quinn, speaking for the vicinage of Newark, N. J., said that up to New Year's day evergreens never looked better. In the latter part of February there was enough warm weather to start rhubarb plants and cause them to put forth leaves an inch across. Following closely after came cold, hard winds, which sealed up the ground so closely that a pick-axe was necessary to open it. This dried out the tops of evergreens, and they died for want of moisture.

Mr. George Such, South Amboy, N. J., stated that evergreens standing in heavy clay soil on the banks of Raritan River were spared, while those at a little distance in higher land and further from the shore were killed.

Strawberries for 1872.

AN interesting address was delivered at the rooms of the Farmers' Club, American Institute, New York, the 18th of June, by Dr. F. M. Hexamer, accompanied with a fine display of about thirty varieties of strawberries. The Doctor has been for many years a successful grower of strawberries, and has now on his grounds the largest list of varieties of any amateur or nurseryman near the city. If we mistake not, over 200 varieties have been grown at one time by him; hence his experience and advice are most valuable.

After the fruit had been carefully looked over by an interested audience, President Ely of the Farmere' Club called upon Dr. Hexamer for some discourse regarding the relative merits of varieties. In reply Dr. H. said that, in selecting, a person must be governed by the quality of the soil in which it is proposed to set the plant. *In light sand*, Downer's Prolific is the earliest, and is quite sure to do well. For main crop on sandy soil select Seth Boyden (which is a great improvement on the Agriculturist), and next the Green Prolific. For late fruit, Kentucky heads the list, and in very light land is a very large yielder.

For heavy soil, Nicanor stands foremost for early, and next to it is the Brooklyn Scarlet, which has higher flavor, and possesses peculiar charms for those who would rather have a small dish of palatable fruit than two quarts of some larger but less palatable variety.

For the main crop there is one kind which has stood the test of years on all soils. Of it there are more raised and sold than of the thousand other varieties combined. It is sour but firm, carries well, looks well, and is good for everything, except to eat for

the connoisseur. It is, however, the great berry, and its name of course is Wilson. Its rival is the Charles Downing, which seems to be proving itself fully as hardy, fully as prolific, and on the whole the most valuable acquisition we have gained in the past six years.

If there was but one single variety he would choose above all others, for all purposes, it would be the *Charles Downing*. It succeeds well in either sandy soils, heavy clay soils, in beds, hills, or rows, unless choked with weeds.

Late Varieties.

On *heavy soils* the European varieties do the best. *Triomphe de Gand* is much the most successful and profitable; hardy, shiny look, fine for preserves, and often sells for one dollar per quart. And there are not wanting some families who are willing to pay this price for really large, choice fruit.

The *Jucunda* is a near relation to *Triomphe de Gand*; not quite as firm. When the *Jucunda* bears a full crop the *Triomphe* does not, and *vice versa*. So it is well to have a bed of each. Cannot account for these peculiarities. The *Jucunda* does not have the glossy appearance of the *Triomphe;* but the latter will stand a carriage of three days. Of all market sorts these two are the most valuable. They will not do on sandy soils, nor on beds; but must be grown in hills.

On *sandy soils*, for a late crop, the Doctor places foremost *Seth Boyden's No.* 30. It does well also on heavy soils; is hard, a great improvement on the *Agriculturist*, better flavor, firmer, ripens much more evenly. The *Agriculturist* is soft, over-ripe, and uneven in ripening.

Green Prolific produces heavily on light soils. Sour, soft; valuable on light soils; suitable for family purposes mostly.

Very Late Varieties.

Under this class is included those which begin to ripen ten days to two weeks later than the Downer, Early Scarlet, and Wilson.

For *heavy soils* nothing is superior to the *Napoleon Third.* It keeps longer in bearing than any other variety (sometimes four weeks), and is uniformly the last of all the varieties to keep in bearing.

The berries are uniformly large, rather light in color, and too soft for market; but for home use would be among the two most desirable of all sorts. It is very hardy and prolific; has very strong stems, bearing often forty to fifty berries per plant. The appearance of the berries on the plant is very beautiful, as they seem to be piled one above the other, like a crown. Plants require two years to get well established, and will not do well on sandy locations.

On *light soils* the *Kentucky* is excellent. Does not have a high flavor; not as good or as prolific as *Boyden's No.* 30. It is not quite as late as the *Napoleon Third*, a good variety for market or home use.

The *firmness* of a berry for home use is not of as much importance as its *quality* or its productiveness.

For *high flavor* there is none superior to *Lennig's White*; has a flavor and spice similar to the pineapple; white color. For home use it is exceedingly valuable. *Black Defiance* is a very large berry, color very good, berries uniformly large;

yields well in common field cultivation; has been grown on light soils, but not largely grown through the country; to be well tested. The Doctor believes it will do well under a good variety of soils.

Seedlings.

Kissena is a seedling of Prof. Huntsman's, of Flushing, L. I.; very prolific. Twenty years ago, while the Professor was growing the *British Queen*, he conceived the idea of crossing it and the *Myatt's Eliza* with native American varieties, thus preserving the fine flavor of the one and adding to it the hardiness and the productiveness of the other. The *Kissena* is a good result of this process. The plant is as hardy as the *Triomphe de Gand*. Every little plant produces fruit. Is firm, cuts solid. The larger the better the fruit in this respect. Sweet; needs no sugar. Is an excellent dessert variety. Superior to the *White Pineapple* in shape. Is what the Professor calls an aristocratic berry, having a fine white flesh and aromatic flavor.

Champion, a seedling of Robert Turnbull, New Rochelle, N. Y., produces the largest berries of any varieties ever exhibited in New York. Wonderful in this respect. Plants are bushy. Must have the best possible cultivation. Mr. Turnbull's soil is well drained, and even underdrained. Not of very high flavor, but is very valuable for a near market.

Warrior, a new seedling, not yet named. Color not quite dark enough, soft flesh, very productive, color light, does not look very ripe.

President Wilder has not come up to expectations.

Growing Plants.

A discussion arose upon the best methods of growing and cultivating the plants. Mr. Durand, of Irvington, New York, said his were grown in three feet rows, fifteen inches apart in the row. With the *Late Prolific* distance is a necessity, as the plants spread fast and become very large. The very easiest plan to grow strawberries is, in the first year to put plants in the hills, and the second year let them run in rows. The more new plants you have the more good berries will follow. It is much easier to keep the plants clear and in perfect trim by setting out new plants every year than to clean up old beds.

Dr. Hexamer's fruit farm is at Newcastle, New York, a short distance above White Plains.

Marantas.

A NEW variety of Maranta, the *M. Veitchii*, having originated in England, and excited general admiration, it has given unusual zest and interest to the subject of the cultivation of this class of plants both for out-door decoration in Summer, and in-door culture in Winter. The *Gardener's Chronicle*, in some comments upon the subject, compares them with Begonias, as far superior amongst pictorial leaved

plants. "The Begonias are, some of them perhaps, equally striking as to color, but they are mostly wanting in the refinement of character, which is a prominent feature of the Marantas. Probably no family has filled up so rapidly as this, its ranks with distinct and beautiful forms."

A contributor to the same Journal describes not only the Maranta Veitchii, but others of most valued character. The list will be found to contain probably all the choicest varieties known to English florists.

"This Maranta Veitchii occupies, in my estimation, the first place in point of beauty, on account of the size and rich and varied coloring of its leaves, the paler portions of which are transparent, and contrast most admirably with the purple and dark green tints of the upper and lower surface. Closely allied to it, however, in aspect, and scarcely, if at all, inferior to it in beauty, comes M. Lindeniana, a plant of the same character, and with similar coloring in the leaves. M. Vanden Heckei is a smaller-growing species of the same type, referred by some authors, as a variety, to M. picturata.

"Of another type, but of exquisite beauty, is the M. rosea-picta, whose rounder leaves have shorter footstalks than in the foregoing, and are most charmingly tinted with darker and paler green, and marked by a rose-colored zone. M. illustris is a variety of this, according to Dr. Regel's opinion, but, variety or not, it is a most ornamental plant, being barred transversely with light and dark green, and zoned with pink. Under the name of M. ornata (but not the ornata of Veitch), Dr. Regel brings together sundry beautiful forms known as albo-lineata, roseo-lneata, regalisi and majestica, which are marked by transverse lines of bright color, red or white, on a green ground. Another set has green leaves with white zone, M. virginalis being one of the most striking, with its broad almost orbicular leaves, and white band and costa; M. Baraquiniana is smaller with ovate-lanceolate leaves, and broader belts of white on each side the costa.

"Still another beautiful type is represented by M. splendida, which has the leaves of a deep bright green, with transverse yellow grand bands, looking very much as if a pale green pinnate Fern had been painted on the Maranta leaf. Mr. Veitch's original ornata was of this type, only the Fern portrait was dark green on a pale ground. The old M. zebrina is another most beautiful plant, as our exhibitions sometimes testify.

"Space would, however, fail to note the many charming objects which this genus presents, and I pass on to observe that, as stove plants, they are by no means difficult to grow. What they need is liberal treatment. In Spring, when they may be divided if necessary, or taken to start on into growth, they require a brisk moist heat to be maintained about them. Later, when growth is mature, they may be used to decorate the temperate conservatory. The soil should be fibry peat and sharp silver sand, with an admixture of charcoal fragments, and, at the last potting, of a little sweet fibry loam; and the drainage must be good, as they require an abundance of water while growing freely. During Winter they should be at rest, and should have comparatively little moisture at the roots."

How to Cure Diseased Peach Trees.

BY PROF. R. C. KEDZIL.

Extract from an Address before Michigan State Pomological Society.

WHERE trees are certainly affected with the yellows, unless we preserve them by the use of remedial measures, they should be destroyed root and branch—not merely chopped down, but torn out by the roots—and even then not left to act as possible centers of contagion. Make them into fire wood, and *don't wait for the wood to season before burning it.*

As the ash elements are of prime necessity in the formation of woody fibre, give each tree a liberal dose of unleached ashes, at least a peck to each tree. If unleached ashes cannot be obtained, use four times as much leached ashes. Leached ashes are very valuable, for they still contain insoluble compounds of potash which are slowly set free for the use of the tree; also all the phosphate of lime contained in the original ash, beside carbonate of lime.

If ashes cannot be obtained, some commercial salt of potash may be employed. Crude saltpetre can be obtained at wholesale in New York for seven dollars per hundred pounds. A half pound of this dissolved in water and applied to each tree would have a very marked influence in stimulating its growth. The cheapest commercial salt of potash is the Stassfurth salt of Prussia. It contains from 23 to 30 per cent of sulphate of potash, and can be obtained in Baltimore at $15 to $18.50 per ton.

The woody growth of peach trees must be encouraged, even at the expense of present fruitfulness, if we hope for healthy trees. The ascertained deficiency of potash in the ashes of diseased trees would point to this element as an important means of securing healthy growth. If the trees show symptoms of the yellows, the treatment of drenching the roots by boiling water is easily applied, and if the treatment is not sufficient the dose may be frequently repeated. It is done by drawing away the soil from the roots of the tree, and pouring into the hole a pail of boiling water. The combined treatment used in Benton Harbor of ashes and boiling water should be freely tried.

The practice of some nurserymen, who are ambitious to have large and fine looking trees to tempt the thoughtless purchaser, of stimulating the growth in the nursery rows by liberal use of stimulating manures, should be discouraged. Stable manure in the unfermented state is so freely used that the trees are forced and pushed forward as if by hot-house culture When such trees are transplanted to the orchard, they are unhealthy, the growth is checked from want of the stimulating food to which they have been accustomed, and they soon die, or fall a prey to the yellows.

Of course no pomologist needs to be warned to avoid using buds from diseased trees.

Too much importance cannot be attached to the proper selection of peach pits to form the nursery stock. I heartily endorse the advice so often given to *select pits from districts known to be free from the yellows.* Nurserymen are too careless or

indifferent in this point, or else are unable to obtain a sufficient supply from the healthy districts. When going through the canning house of the Excelsior Packing Company, in Benton Harbor, where large quantities of peaches are canned, I saw many baskets of peach pits, and was told they were already sold to nurserymen, and that it was difficult to fill all the orders for peach pits. Yet very many of these peach pits were unquestionably from diseased peaches, and all of these were from trees in which the fruit-forming tendency was excessively developed at the expense of the constitutional vigor of the tree, and *not one of these pits was fit for use as nursery stock.* The nursery stock, like Cæsar's wife, "should be above suspicion." It is very important that peach pits as nursery stocks should be obtained from pits free from the yellows, but this is not enough. No pits should be used from trees where the wood-forming vigor is so far checked that *the leaves have a yellow cast.* Many seedling varieties growing on the clay lands of the central portion of our State are almost worthless for fruit, but they have a wonderful vigor of growth, and *their leaves are dark green until killed by the frost.* Let such trees be cultivated for their pits alone; let these be used for nursery stocks and *let the bud be inserted at the height at which the top should begin to form, so that the body of the tree shall be formed entirely of this vigorous wood,* and I think we may soon bid farewell to the yellows in peaches.

How to Erect and Manage Cold Graperies.

EUROPEAN varieties of grapes have never yet succeeded with us in the open air, and yet it is a generally admitted fact that they are in every sense superior to ours, not only in size, but in appearance and quality as a dessert fruit. Under glass they are as successful here as any could wish, and the growing taste of the people for graperies and conservatories will justify some suggestions concerning their arrangement. Dr. Swazey, of the *Southern Horticulturist*, recommends as the best dimenensions of a cold grapery to be 30 feet long, 8 feet wide, 8 feet high at back, and 2 in front. A house of this size, if devoted wholly to grapes, will hold 20 vines, 10 on the rafters and 10 on the wall. Next he considers the *grape border*, how to prepare it.

The best foundation for a grape border is a good friable garden soil, such as will produce first rate vegetables. If we have this already where the border is to be made, the task before us is a light one, for in such case we have only to secure perfect drainage to the depth of eighteen inches or two feet, to add a little special compost and to thoroughly pulverize the soil a foot or so deep to give us a healthy and permanent home for our grape roots—not a mucky, putrescent bed that will send up our canes to the top of the rafters by mid-summer and give us a magnificent 20-pound-to-the-vine crop the second season after planting, but a border that will insure a moderate, well-ripened growth of cane and that will furnish us with steady and permanently increasing crops of delicious, high flavored and long keeping grapes, not for exhibition, but for use.

Few plants vary more in the composition of wood and fruit than the grape. While

nitrogenous manures are exceedingly useful in the early stages of vine growth, they are rather detrimental than otherwise after the plant has become fully established. And for this reason—the *wood* of the grape contains a large per cent. of azote, more than eight times as much as of potash; the fruit, on the contrary, contains, in a given quantity, nearly twice as much potash as nitrogen—the latter being so insignificant in quantity that Gasparin only found 3-10 of one pound in a hundred pounds of grapes. It is evident, therefore, that in the composition of our border we must consult the demands of the vine in respect to both wood and fruit—supplying the nitrogenous elements in sufficient quantities to keep up a vigorous and permanent growth of wood and the alkaline elements demanded by the fruit.

A compost of leaf mould, stable manure, superphosphate of lime or ground bones, wood ashes and gypsum will fulfill all the required conditions—and a compost something like this should compose at least one-third of every grape border where the soil is naturally poor or has been exhausted by previous cropping.

The border should not only extend over the whole inside of the house, but four feet outside of both front and back walls. This for the size of the house we have named would give us a border 16 by 31 feet. Over this area, therefore, our compost should be evenly spread to the depth of two inches, and deeply and finely spaded in. After this, another two inches should be thoroughly incorporated with the surface by raking. The border will thus be some six inches above the surrounding level, and this, with care in giving it a slight descent from the walls of the outside will generally be sufficient to guard against undue moisture about the roots of the vines.

In this border the vines are to be planted at three feet distances along the *inside* of the back wall and *front* wall, beginning, of course, one and a half feet from the end in both cases; the rafters having been so arranged as to have the vines directly beneath them. Up the point and along the rafters a No. 12 galvanized wire is to be run on proper supports ten or twelve inches from the rafter and beneath them, and to these the vines are to be trained in single canes. On the back wall the vines may be trained directly to the wall by means of narrow strips of stout cloth or leather.

Of the twenty vines ten should be the old and reliable Black Hamburg, and after that one each of Bowood Muscat, Golden Hamburg, Champion Hamburg, Golden Champion, Muscat Hamburg, Foster's Seedling, Buckland Sweetwater, Royal Muscadine (true), Black St. Peters and Lady Downs. Or, if preferred, some of these may be substituted by two or three of the Frontignan varieties.

How to Grow Tree Mignionette for Winter Decoration.

THE *Florist* and *Pomologist*, London, speaks of the Tree Mignionette as a special favorite in England as a Winter decorative plant for baskets in the house or conservatory, on account of its graceful appearance when grown in a tree-like form, on stems, two feet high, with head from two to three feet through, but also on account of the fragrance it diffuses around. Indeed, the plants are the admiration of all who see them. To have plants in bloom by November, the seed should be sown by the middle of March.

We use three-inch pots thoroughly cleaned and well drained, with a thin layer of moss over the crocks. The soil should be rather free, and put through a half-inch sieve. The pots are nearly filled, the soil gently pressed down, and a few seeds placed in the center of each, covering them over with the soil to about the thickness of the seeds. We give a good watering, and place the pots near the glass, in a temperature of sixty degrees; if the surface is shaded until the plants make their appearance, so much the better. At this stage of their existence, the young seedlings don't relish being often watered.

As soon as the plants are large enough to show which is the strongest, we take all the others away, and put a small stick to the one left, and to this it is tied as it grows, in order to keep it from being broken at the neck. When about six inches high it will require another shift into a six-inch pot, observing the same care as before in regard to drainage at this and all future pottings. The soil, moreover, should be only chopped; and leaf-mould, a good sprinkling of sand and a little soot should be well intermixed through the moss. A little of the soot sprinkled over the moss on the top of the drainage, will be beneficial in keeping worms from getting into the pots during summer.

We find eleven-inch pots large enough for making fine heads. The leading stem should not be stopped until it has reached the height required, and then the six top side shoots will be found to make a fine head if properly attended to, in regard to pinching and tying down to a small trellis made of wood, of the shape of an umbrella. In pinching out the side shoots, a pair of grape scissors will be found best, as they do not injure the stem leaves, which must be taken great care of all through. By growing in a temperature of sixty degrees near the glass, giving manure—water twice a week after they have filled the last pot with roots, and daily syringing overhead—they will by the month of November amply repay all the labor bestowed upon them.

The same treatment applies to pyramids, only one of the side shoots must be pinched away. We have at present (December 28th) plants which, when staked, will be three feet high and as much through.

A Chat about Ferns.

ONE of the members of the Oneida community has been entertaining the readers of the *Circular* with pleasant gossip about American woodland and meadow ferns. We think it the best article on the subject we ever read, many passages indicating real genuine taste for plants, and pleasant descriptive powers.

The best-known fern, and I may say the best hated one (for the farmers teach their boys to fight it), is the Hog-Brake, or Bracken (*Pteris acquilina*), as it is more gently named. It thrives best along the edges of hemlock woods and sandy pastures, where it is too strong for the grass. The growth of it is sometimes enormous, covering acres of land, and in the fall dying down and clothing the earth with a thick brown mulch. In the spring I have seen a farmer set fire to these dead ferns and make a

sort of black-and-brown patch-work, of his pastures; but in a few days, and before the grass could do anything, the ground would bristle with green and woolly brakes, each particular stem of which would seem to be shaking its fist at the desperate man. The stems would unroll their branches, the branches would unfold their leaves, and in a short time the pasture would be covered as by a forest of liliputian trees. Into these pigmy woods we boys used to crawl on idle days. There with our knives we made clearings as if we were men in new countries, and from the branching stems we set up crotches and lug poles to support imaginary kettles, in which we made imaginary sugar. When we became old enough to join in the farm-work and be taught that fancy is an idle thing, we stopped making castles among the brakes and came to hate them cordially. And though I have become wiser since, and learned that fancy has a right to live in the family with love and faith and sound judgment, I still look on this fern as the least interesting of its kind: it is the big coarse man of your family, who always takes his own and more, too, if he can.

If the Bracken is sometimes a pest, the Maidenhair (*Adiantum pedatum*) is always a pet and glory. It confines itself to the woods and thickets, never trespassing on the domain of the farmer. It courts obscurity; it loves to be eclipsed; and this is something more than you can say of everybody. Springing up with the snowy orchids and Canadian violets, it goes on thriving after the woods have become too dark for the early flowers; its black stem, shining like polished ebony, seems to take in color from the surrounding gloom, while it forks and branches to hold up its canopy of one-sided leaves. It is so like the ugly Bracken in some respects, and yet so unlike in its graceful delicacy. It is perhaps the most pleasing of all the ferns, not by its rarity, for it is as wide-spread as any, but by reason of its intrinsic beauty.

Another very common fern, though not so well recognized as the Bracken and Maidenhair, is the *Dicsonia punctilobula*, or Lady Brake, as we call it in Vermont. It is this plant which makes the old sugar-orchards so redolent and ferny. Sometimes a high wind upturns one of the maples there. You have a long gray trunk lying prone; at one end of it is a great crush of broken limbs; at the other is a pool of water and a wall of earth and stones and interlacing roots, one of which, stretching up into the air, seems an arm up-flung in some great agony. The farmer carries off the stem and branches, and leaves the rest to rot away and crumble down until there is nothing left but a low mound of earth. The Lady Brake then comes and plants this knoll with her pale green fronds, every one of which is fashioned so elaborately, and is so pleasing in certain frames of mind, that you are ready to aver that fern leaves are more nourishing than any boiled vegetable.

When the fern-hunter perceives there is a characteristic fern for every distinctive place, he feels as if he had stolen one of nature's secrets; that he is meddling with one of her pets, and that it behooves him to be reverent and tender. I believe there was triumph in heaven when God designed the primeval fern and resolved to adapt it to every condition of rock and soil.

The Cinnamon-fern (*Osmunda cinnamomea*) and Flowering fern (*O. regalis*) are swamp-ferns. They grow in large tufts from thick root-stalks which stand up above the surface of the bog. A plant-hunter wandering in the pineries will sometimes find himself intercepted by one of these fern-swamps. Upbearing a canopy of peren-

nial green, the tall pines seem to be looking down on a bit of the tropics; pine and palm he thinks have come together. It would be a coarse act to wade in among those ferns, trampling down woolly fronds and smooth green fronds, as you sprung from tussock to tussock to keep from sinking in the black and pasty mud.

The Sensitive fern (*Onoclea sensibilis*) is a river fern. Although it grows in a great variety of moist places, it seems most at home on those low and shady tongues of land which are flowed a long time before the stream goes over its banks and compels the muskrats to go sculling off, with their noses at the apex of a long triangular ripple. It is so named from its shrinking from your touch as from something hot and wilting. The fronds come up singly and remote from one another, as if they respected each other's privacy and hour for dealing with the invisible. The fertile frond is so given over to the work of propagation it quite loses its leaf-like character; its pinnæ and pinnules are contracted and rolled backward until the frond looks like a stem of berries. The doctrine of the morphologist, that the stamens, petals, spores and fruit, are only so many leaves which have been set aside and transformed to carry on the work of propagation, gets some new strength from our study of the ferns. In the case of the Lady Brake and others, we have a few small fruit-dots on the back of the frond. In the Bracken and Maidenhair the edges of the pinnæ begin to be folded back a little. In some of the Flowering Ferns we observe that a few pinnæ in the middle of the frond have quite lost their foliaceous character. Finally, in the Sensitive Fern we have a frond that is completely transformed.

The earth was long a-making for the Ostrich Fern. The rills ran into the brooks; and the brooks into the rivers, which o'er passed their banks once or twice a year and left a thin film of sediment. After thousands, perhaps millions of such deposits, the river can make no more additions to its adjoining flats except in times of great strength and fullness, Now is the time, and here is the place, for the Ostrich Fern to plant itself. This is the most stately of all our northern ferns. Springing from the rich alluvium its fronds stand shoulder high, like great bunches of plumes. If you see one of these tufts you think of a vase, its fronds bend so gracefully outward from an opening in the center. If you see a number of them together you think of little Gothic shrines, of nave and transept and painted window. The aspect of this fern is as striking as anything in all other flora. It pays you to creep into one of these fern-thickets, and thence into a new world. I think if I had found a love that did not make all things new, I would not take my bride and rush off in the honeymoon, to gather dust and face railway conductors and hackmen and porters and hotelmen. I would go to the meadows on a summer day, and with the creek placid here and rippling there, on one side of me; with a corn-field rank in its maizy odors and pumpkin-vines on the other, I would look underneath the drooping elms and the scrawny sycamores for a fern-copse; and when I had found it I would go in on hand and knee. With the gothic aisles opening on every side of us, with a pale-green light filtering itself through the strange leaves, we should not find it hard to believe that our world had become new, and that we were the new Adam and the new Eve.

Salutatory.

IN the consolidation of the *Western Pomologist & Gardener* with the HORTICULTURIST, as previously announced, and which involves our editorial connection with this journal, it may be expected that we will follow a long established custom, and with a low bow and formal "salutatory," introduce ourselves to its patrons. The reasons for this consolidation of interests and editorial labors, the friends and patrons of the respective journal will care little about. We shall not, therefore, burden the reader with their rehearsal. We trust that the union of the two papers, devoted to one great interest—of which, as a profession, it has been well said: "is a boundless source of rational amusement, wealth and happiness"—will meet with a cordial reception at the hands of the patrons of both journals.

There is a widespread spirit of improvement abroad with reference to Horticulture, and not a few who have engaged in it, have already learned to their great advantage that it is certainly worthy of the most profound investigation—that improvements may be made in this art as well as in others, and that the discoveries of the age, and the developments of science, are furnishing agencies and means for its promotion. And we are pleased to note, that in these days of progress, when, in every department of the arts and sciences, so many new discoveries are being made, and so great advancement is gained, Horticulture is not found lagging. It has, within a few years past, made rapid strides, and is now known and respected as a profession and science in the truest sense of the term; and as such, we may claim that its practical application is inseparably connected with some of the greatest necessaries and luxuries of life. But what has already been accomplished, is as nothing to that which remains to be done. This great work must be effected mainly through the dissemination of reliable intelligence, and for this dissemination we must look to the horticultural press. As to our agency, or whatever we may be able to do in our present field of labor in furtherance of this noble work, we have little to promise; we will leave it with those who may follow us from month to month through the pages of this journal to judge for themselves of our stewardship—whether we are a faithful servant—whether, in our labors for the advancement of horticultural science, we contribute anything to carry it onward and upward. We will say, however, that we shall endeavor, to the best of our ability, to aid in making the HORTICULTURIST a faithful exponent of the great interest which its name imparts.

MARK MILLER.

Cultivation of the Peach.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

THERE are several circumstances, which combine to discourage many from planting peach orchards; among these discouragements are: first, the liability of the fruit to be winter-killed in the bud; secondly, the liability to be killed by late spring frosts while in bloom; and thirdly, the short lifetime of the tree. We propose now to submit a few thoughts upon each of the above points:

In regions of country where the mercury does not fall lower than sixteen degrees below zero, the first evil seldom occurs, especially if the young wood of the tree has been well ripened the preceding fall. To facilitate the maturity of the wood, the trees should be planted on stiff clay, or thin, sandy soils. Added to these conditions of soil, if the plantation is on a location considerably elevated above the surrounding country, the protection thus given is greatly increased. The great object had in view to protect against winter-killing in the bud, is to have early and well ripened wood, which is largely influenced by the soils and elevations above referred to. Indeed, we have known locations of this kind where the peach crop was not a failure once in twenty or thirty years. The top of Muldrough's Hill, near the mouth of Salt River, in Kentucky, is one of these safe locations, so far as atmospheric influences are concerned.

The second difficulty is, the danger arising from late spring frosts, while the trees are in bloom. Safety in this condition is very much increased by the same conditions as protect from winter-killing in the bud. Here altitude plays a very conspicuous part; not the actual altitude above the level of the sea, but the relative altitude in respect to the surrounding country. Altitude, however great, affords but little protection, unless it is, at least, partly surrounded by contiguous low lands. It is a well known fact, that frost is much more destructive in low valleys, than on the adjoining hills; and this destruction is in proportion to the relative altitude of the two locations. It is also equally well established, that frost does much more damage of still nights, in the spring, than when there is a breeze or current of wind during the night. The wind which, during one of those threatening days in the spring, is from the W. N. W. or north, brings with it a large amount of cold air, which being heavier than the air near the earth, does, by its weight settle, during a still night, to the lowest point, thus pressing the warm air out of the valley along the sides of the hills to the top, producing a current of warm air which protects, by its warmth, those things which are at a certain elevation above the valley. The greater this elevation, the greater the protection, and the lower the valley, the greater the destruction.

As an illustration of the truth of this principle, persons passing through these valleys in one of those still nights, after a cold, windy day, will, as he descends the valley at a certain line, sensibly feel the cold air; and the lower he gets the colder he feels. When he commences to ascend the hill on the opposite side, he at a certain line of elevation, sensibly feels the warm air, which as he ascends becomes more and more pleasant. We have known this lake of cold air so distinctly marked as to kill all the fruit on a tree up to a certain horizontal line. Above this line, all was

saved. Hence the importance of suitable locations for protection of the peach crop from the destruction of late spring frosts. The third and last difficulty here presented, is the transient life of the tree.

The life of a peach tree is very sensibly affected by the kind of soil in which it is grown, coupled also with its elevation. A tree planted in deep alluvial soil, and in a low situation, as upon a river bottom, will usually, in from ten to fifteen years, *grow* itself to death; but on a high location, and in what is commonly called *thin* land, it will, if no accident befall it, live perhaps twice as long as in rich land. Yet the peach tree is, at best, one of but short duration, especially when compared with the apple or pear tree. Nevertheless, this objection to planting peach trees can be greatly modified by pursuing the following course: When the trees, either upon rich or poor land, begin to show signs of decay—if they have branched near the ground, as they should do, several of the branches should, in October, be sawed off within two feet of the ground; the stumps of these sawed branches will, the next season, throw out sprouts, which will give to the tree quite a handsome young top. At the end of this season, the balance of the old top should be taken off, which will throw out sprouts as those before. Thus in two years you have a tree with a beautiful and healthy young top, bearing fruit even superior to the first crops. When these tops thus formed begin to decay, cut the whole tree off even with the ground; from this stump, numerous young sprouts will grow the next season; of these sprouts save one, two or three, which in due time can be budded, and thus another fresh tree produced, little, if any, inferior to the tree when first planted. By this kind of management can the life of a peach tree be prolonged to the third or fourth generation—say from thirty to forty years. If the above suggestions be strictly followed between the parallels of thirty-six and forty-one degrees of north latitude, perhaps farther north, peach growing can be made a tolerably certain crop, which during its continuance pays perhaps better than any other.

Upon the question of cultivating peach trees, we would say, as in the cultivation of the pear tree—give clean culture, always; and to prevent a too luxuriant growth, have them on ground that will *require* cultivation. In this way you can, to a very considerable extent, manage your trees so as to produce a healthy and reasonable growth of well ripened young wood, which is indispensable to success.

P. S.—A very important question here arises, and that is this: If frosts are much more destructive during still nights than when there is wind, how is it that belts of timber as *wind-brakes* are said to protect fruit orchards. It cannot be as a protection of the fruit against frost, but must be simply a protection of the trees against the drying influences of the wintry blasts. It is said that an obstruction of two feet high will still the current of the wind for twenty feet beyond. It follows, therefore, that a belt forty feet high, will still the wind for four hundred feet beyond. Hence, a timber belt, as a protection against frost, would seem to increase the danger, rather than to prevent it, in consequence of the eddy which it causes beyond the obstruction thus made. We should like to have this subject ventilated.

Progress of Apple Culture in Minnesota.

BY PETER M. GIDEON, EXCELSIOR, MINN.

THE proper time for the following report was some weeks past, but the condition of my eyes would not admit of it, and with difficulty do now. Each fall and spring for years past I have given our success and prospects in fruit culture, and am happy to again announce the prospects still brightening, especially in the profusion of the varieties of the apple that bids fair to succeed here, showing that at no very distant day we may all grow an abundance of the very best in succession the year round.

Low heads and thorough mulching, the year round, is my theme, thereby avoiding sun-scald, drouth and frost; and thus protected, find full one-half of all old named varieties of the apple to succeed with us. The past winter told as hard on all tender varieties as any previous winter had done, so that what stood the past winter bids fair to succeed, and in our estimation quite safe to plant. I don't generally make mention of tender varieties, but, the Grimes' Golden, just now taking a run in the West, I will just say, has proved tender here on all soils and locations.

In my list of old named varieties, I give only the best of the season of its eating, as no one wants an inferior apple when they can get a better one of same season. I give as nearly as possible in succession of ripening, from August to August again, all hardy, with our mode of culture, viz.: Early Strawberry, Early Pennock, Sops of Wine, Duchess, Fall Stripe, Jersey Sweet, St. Lawrence, Alexander, Fameuse, Wealthy, Blue Pearmain, Westfield, Seek-no-further, King, Prices' Winter Sweet, Wagoner, Winter Winesap, Northern Spy, Ben Davis, Newtown Pippin, Golden Russet and Pewaukee.

The following lists are of late origin, hardy in tree and many fine in fruit, but the fruit of the majority I have not seen. Will give references, that those wanting can apply at once to the proper sources, as I am not a nurseryman nor dealer in trees, nor in any one's employ. I write all articles free, and don't wish to do nurserymen's correspondence, other than inquiry through the press. Those of Central Minnesota origin, and known to nurserymen here-a-bouts are: General Grant, Aikens' Winter, Pioneer, Molly, Newton, Woodward's Winter, Woodward's No. 6, Hawkins Chief, Minnesota Prince and Cordell. Those of O. F. Brand, Faribault, Minnesota, are: De Never, Lamertine, Fondulac Beauty, Empire and Wisconsin.

Those from S. Bates & Son, Stockton, Minnesota, are: Medo, Winona Chief, White Winter Sweet, Bouck's Red Winter, Becker's Large Red, Lucy, First Settler, Star of the West and Minnesota. Those from G. P. Peffer, Pewankee, Wisconsin, are: Early Stickney, Seedling Pearmain, Allen Russet, Porter's Best, Walbridge, Felix, Wiley, Peffer's Russet, Peffer's No. 25.

Those from J. C. Plumb, Milton, Wisconsin, are: Snider, Hulls, Litch, Cable Gillflower and Plumb's Choice Crab.

Those from J. P. Buckner, Waukesha, Wisconsin, not a nurseryman, German and Golden. Those from M. D. Lapham, Paris, N. Y., not a nurseryman, are: Sallie and Wick's Everlasting. Those from Lukens Pierce, Coatesville, Penn., are: Klaprath, Krauser, Marks, Jeffries, Early Ripe and Hultenstein; and lastly, and extra

in tree and fruit, is the apple we call Strachan, from a gardener and florist, Rockford, Illinois.

The past spring I set about one hundred and fifty varieties of the apple, not heretofore tested by me, the best from all parts of the United States, and also about one hundred varieties of the pear, on which I will report in future years. The pear trees, generally, came through the past winter in good condition, but dropped their fruit badly, as did some varieties of the apple, viz.: Blue Pearmain and three large seedling trees not named. I can give no cause for the dropping; generally the apples hold well. As yet, the blight is not as bad as last year, chiefly confined this season to the Hyslops and Transcendents. Cherry crop almost a failure. Grapes splendid, and all small fruits in profusion.

EDITOR HORTICULTURIST:—I would like to inquire the cause of apple trees appearing in so dilapidated a condition this spring; some of my trees have not, as yet, put out their full quota of leaves, like as healthy trees should. One or two varieties are all right—the Perry Russett is vigorous, and is bearing well; ditto, of Tallman's Sweet. We had last summer a sun-scald on apple trees, which destroyed the young wood as effectually as fire could, and the dry limbs now stand as monuments of fire, dead and dry. Of apples there will be only a moderate crop. Cherries are in a worse predicament—a few scattering ones here and there show us how they *ought* to look. Plums are none at all. The trees bloomed profusely, but no plums set. Strawberries are almost a failure, vines are luxuriant but no fruit. Raspberries were badly winter killed, as the phrase goes. About one-half of the last years' canes died out, but still the promises for a fair crop is good. All varieties fared alike—the upper parts of the canes being killed and the lower branches fruiting. But grapes are coming on finely; the fruit is forming nicely, and of all of mine that were protected during the winter, I can see no difference. The crop bids fair to be large. We have a new pest on the leaves in the shape of a brown or black slug, that eats the leaf all out, leaving the ribs of the leaf all bare. But I found, by experiment, that Paris Green and flour sifted on the leaves while damp, in proportion of one to twenty-five, effectually destroyed their appetite for green fodder. The rose slug served in the same way will produce like results. The gooseberry worm can be destroyed in the same manner. Last year my bushes at this time were simply bare poles, are now luxuriant in leaves, and the worms have concluded to leave them alone. I have some old Clinton grape vines on an arbor that appeared to be dead for a long time, but since our last heavy rains they have pushed their buds finely. Evergreens have suffered badly the past season, and hundreds have died outright, not as some suppose, *winter killed*, but killed from the lack of moisture in the ground. As soon as moisture reached the roots of the Clinton the vines grew finely, but evergreens not being so hardy, succumbed to a climatic effect that was in existence before the winter set in, which winter aggravated and of course gets the blame. Other little items I will note as they may occur. DR. GEO. WARNE.

Independence, Iowa, June 24, 1872.

Pear Blight—Wier and Stayman.

BY DR. WM. M. HOWSLEY, LEAVENWORTH, KANSAS.

IN our article in the December number of the *Pomologist and Gardener*, we stated that the fungi are *said* not to attack trees during a very *dry* summer. In this, Mr. Wier says, we are *right*, and yet he says, "blight does attack trees in the *driest* summer." We confess we cannot understand this kind of reasoning. At Richmond, in September last, at the meeting of the American Pomological Society, Mr. Wier offered a resolution, that we know nothing about blight. He now seems to be fully master of the subject. Verily, he has learned considerably in a very short time.

Dr. Stayman says, "he feels it a duty he owes to his readers to reply to our theories." We regret that the doctor feels such an enormous burden resting upon his shoulders, as that of keeping the horticultural literature of the country purged of such delusive errors. In this connection, we would remark to our readers, that from the chronic habit the doctor has of shifting his position, frequently think it not unlikely he, within a year from now, will be advocating the theories he is now opposing.

The doctor asks, why, if freezing is the cause of blight, young trees do not blight as well as older ones? We would simply ask in return, why young trees do not have vegetable apoplexy?—his theory, as well as older ones. And, again, if fungi are the cause, why they do not attack young trees as well as older trees? But we do not wish to weary the readers of *Pomologist and Gardner* with any further remarks in this connection. We will, therefore, let what has been already said, suffice for the present.

Notes on Fruits—Codling Moth, Etc.

OUR crop of apples is not what it was last year, which perhaps encourages the Codling Moth to think it can dispose of the whole crop before cold weather comes. This intolerable pest of the orchard certainly shows a decided inclination to "push things" with such zeal and energy as would attract attention even in a new convert. If we can't "head off" the Codling Moths, can't we put them to some good use? No trouble in raising a large crop of them. What kind of *vinegar* do they make? and at what time is it best to commence on them? Among the varieties of apples bearing fair to good crops, are the following: Phillips' Sweet, Westfield Seek-no-further, Potter's Early, Oldenburg, Astrachan, Hog Island Sweet, Bevan's Favorite, Belle du Havre, Fulton, Cole's Quince, Am. Summer Pearmain, Jonathan, White Winter Pearmain, Early Joe, Wagner, Minister and Duling Sweet. The last mentioned sort I regard as one of our best summer apples. I will send you specimens when ripe. Benoni, as usual, is fruitless. After seeing this variety tested for the last seventeen years on my father's grounds, I think it as near worthless for this locality as any variety in cultivation; however, it may improve with age. Early Pennock is also bearing well, not much blight or scab yet.

Cherries did very poorly, except English and Plumstone Morellos, both of which bore very heavy crops. I have seen the English Morello in bearing for fifteen years at this place, and in all that time have not known it to miss producing a good crop.

Some varieties of pears are bearing very well, among others, Fondante d'Automne and Doyenne Boussock. The Codling Moth does not seem inclined to work on them to the extent it does on the apple. However, there is a great difference in its depredations on different varieties of the apple. Duchess of Oldenburg [too sour for anything to work on—ED.], for instance, has been but little injured by this pest.

Lombard plums will probably all rot, although they have not been damaged materially by the Curculio. B. A. MATTHEWS.

Knoxville, Iowa, July 15, 1872.

American Grape Vines in France.

OUR grape vines are at last beginning to be appreciated in Europe. One of my correspondents, L. Laliman, of Bordeaux, who has cultivated with commendable zeal many of our American varieties, is not only getting his reward in the possession of some which resist the ravages of the dreaded root-louse (*Phylloxera vastatrix*) better than any of the European varieties, but in the production of a superior wine. In a late letter he writes:

"The wines which I obtain from certain American varieties age very rapidly, and I may tell you that the Jacquez [I do not know this variety], the Lenoir, the Clinton and the Long [known to us as the Cunningham], mixed together, give me a wine much superior to those I get from our own French varieties. The Delaware, also, mixed with the Taylor, makes a very agreeable wine."

In an article written by him last April,* he further says: "Certain vines of the *cordifolia* [*riparia*] species make a very good wine, and certain hybrids, as well as some varieties of *æstivalis*, produce wines so like our own that we shall find it to our advantage to cultivate them, not only from an alcoholic stand-point, but for an abundance, color and taste which will astonish those who are acquainted with the *labrusca* only. * * * The Americans have made such rapid strides in horticulture of late that, we repeat, they have entirely changed the character of their vineyards. Certain grape growers have succeeded, by hybridization, in so improving their wild vines that their grapes to-day equal our best products of the kind."

This is not bad for a foreigner! And when we reflect that such of our varieties as have been found to resist the *Phylloxera* here, will be in demand there for grafting purposes, we may hope that our trans-Atlantic brethren will finally get to understand that we *can* grow good grapes.

It is to be regretted that more caution is not taken by those who write upon the subject of the *Phylloxera*. I lately noticed in one of the monthly reports from the Department of Agriculture the statement that varieties of *labrusca* are freest from the attacks of the louse; whereas *labrusca*, as a species suffers most. Such careless statements mislead, and may account for the fact that the varieties imported by the French minister have been mostly of this species.—C. V. R. in *Rural World*.

* Reponse a la Soc. Linnæense.

The Salway Peach.

WE should have acknowledged ere this, a yearling tree of the Salway Peach, last spring, from Mr. J. C. Neff, of Duncan's Falls, Ohio. The tree is making a fine growth, and though our locality is ill adapted to peach growing, we hope to eat of the fruit of this tree. And in this connection, for the benefit of others situated like ourselves, and who would enjoy the luxury of a home-grown peach, we would say: Commence with a yearling tree, cut back to within ten to fifteen inches of the ground, and allow three branches to grow from the main stem; train these with their laterals to a horizontal trellis, firmly fixed about two feet above the ground. This method of training admits of easy and safe protection in winter—simply throwing on a few forksful of straw, late in the fall. We have seen crop after crop produced in this way when other methods of protection failed, such as bending down and covering, packing upright with straw, corn stalks, etc.

Mr. Neff says of the Salway: "I received a number of trees from Mr. Pullen, of New Jersey, three years ago, and last season some of them fruited; I found the fruit all that Mr. Pullen claimed. The tree is a rampant grower and very hardy, having gone through three hard winters on my grounds without injury. The last winter was a hard one, the mercury fell twenty degrees below zero, but the Salway trees are out this spring as lively as the frogs." Mr. Pullen sent specimens of this peach to the editors of the *Maryland Farmer*, in 1869, with the following note:

'Herewith I present you with a few specimens of the Salway Peach. These specimens were grown on small trees which were slightly forced in my orchard house last spring. The Salway Peach, as you will observe, is a large yellow free-stone of very high color, and remarkably handsome. It ripens after the Smock, and therefore adds several days to the peach season. It is an English peach, and was first imported by my father, the late Isaac Pullen, about five years ago. He was so well pleased with its good qualities that he went extensively into the cultivation of it.'"

FRUIT IN N. E. IOWA.—I have an abundant crop of apples. So far there is no sign of blight or scab. The blight on my Tallmans last year was caused by the locust. Small fruit has been very abundant, especially Strawberries. One of my neigbors sold over $2,500 worth off 3½ acres. Crops of all kinds are excellent. My Early Washington, Sops of Wine, Red June, Early Harvest, Red Astrachan, Maiden Blush, Fall Pearmain, Fameuse and the Russets are loaded with fruit. We do not expect a full crop only every three years. Last year I had not over 200 bushels of apples, this year I will have 1,200 to 1,500 bushels of apples, and my Currant crop will be nearly 80 bushels. We had a very late spring. I planted corn on the 22d day of May that is now seven feet high. Potatoes are very fine—new Early Rose are selling for fifty cents a bushel in our market. E. R. SHANKLAND.

Dubuque, Iowa, July 14, 1872.

Editorial Notes.

Ornamental Garden Vase.

A handsome vase is an admirable object for the center of a lawn, or for the side of an elegant dwelling. The grouping of plants should change somewhat to correspond with its locality, and its proximity to other ornamental objects. In the center of a wide lawn, with no standard tree or shrubs in sight, the vase should contain plants of considerable erect growth and stature, but if the vase is just on the edge or foreground of a dense clump of tall evergreens, the general character of the plants should be low and trailing. Bedding plants will then be found most suitable and appropriate. The Tredescantia is one of the best of trailing plants, also the Linaria cymbalaria. In early spring nothing exceeds a massive show of violets, fresh from the forcing-house. Tulips are often used for vase decoration, but we have never yet seen their appropriateness nor beauty for such situations. A solitary Geranium is pardonable, if it is thickly foliaged and a profuse bloomer—and a dense mass of blooming Pelargoniums are also very pretty.

The Cineraria is most common for such purposes, and among bedding plants, the Petunia and Verbena.

The design we give this month is taken from a view of the Composite Iron Works Company—one of the most popular and fashionable styles.

Horticultural Excursion.

An Excursion Party of three of our most eminent horticulturists, left New York on the 22nd of June, for a short business and pleasure trip to Europe, of about three months. The party consists of Josiah Hoopes, of Westchester, Pa., P. T. Quinn, horticultural Editor of *New York Tribune*, and B. K. Bliss, the well known seedsman of this city. They will visit the most interesting horticultural points of interest in England, France, and Germany. Only one of the number will write for America journals, this being Mr. Hoopes, who is engaged as correspondent of *The Christian Union*, and also *Hearth and Home*. They will return about September 1st.

Early Rose Potato in England.

It would seem from reports that the Early Rose, in the second year of its trial is destined to excel even the best of the English varieties. A gardener writing to the *Gardener's Chronicle* says, he has it growing side by side with Fortyfolds, one of the best of the English sorts, and it has proved to be not only earlier but better in quality. The crop is nearly as many in number, but double and treble the size of the Fortyfolds. He thinks it will prove a god-send to the gardener.

Model Nurseries.

A short visit of a day at Westchester, Pa., and a ramble over the nurseries of Hoopes Brothers & Thomas, and Otto & Achelis, revealed a condition of horticultural enterprise at once pleasant, encouraging and suggestive. The firm of Hoopes Brothers & Thomas, are all young men, but with characteristic enterprise and assiduity, have persevered, and by honorable dealing, safe and prudent transactions, built up one of the largest nurseries south of New York. Their grounds now compose 375 acres, devoted mainly to ornamental stock, and peach trees. The shape of their land is so laid out, that in portions there are strips nearly a mile long and half a mile wide. Saddest of all remembrances of our visit, was the sight of so many large beds of evergreens scorched with the winter's chilling touch. Not far from 50,000 evergreens have been lost, the estimated value of which is not far from $10,000; and, indeed, we think this sum will not be sufficient to cover the loss. Entire blocks were seen, 50 feet wide, and 200 or more feet long, stocked thickly with young evergreens, every single one killed to the very tips, and showing a solid mass of dried stems, leaves and branches. Nothing could have been more thorough than the work of desolation. To add still more to the hardships of the occasion, was the fact that these had been all sold or engaged to purchasers, and it was impossible from other sources to fill the vacancy. The spring has been the driest ever known, and hindered planting very materially.

In the grounds of Otto & Achelis, who have seventy acres devoted to ornamental stock, the loss has not been so severe, owing to a more sheltered location from the northwest wind, but the loss has been heavy enough. It is one of the most gratifying signs of the progress of horticultural taste, to discover that in our principal nurseries, more space is now being given to ornamental stock, and to find that fruit stock is less in demand, the fruit fevers of the public appetite apparently having ceased.

A New Floral Establishment.

A perfect gem in its way, we found one afternoon, as we sauntered up the long Germantown Avenue, in Germantown, Pa. Brother Meehan came out to meet us, and together, we walked towards Chestnut Hill, or, rather, Mount Airy. Just over a little rise of ground, we saw a pretty row of greenhouses, with nursery behind and flower garden before, decorated with just a few of the best and rarest plants. This was the site of Miller & Hayes' new Mount Airy Floricultural Nursery. Geraniums apparently seemed to grow everywhere. Mr. Hayes said, *Lucius* was the best, and we looked Lucius in the face so long that he blushed deep crimson, and we ditto, *because* we liked him. We were so bewildered with the taste and manner of his new favorites, which alas, a lost note book fails to record, that we blush again to acknowledge we cannot do it justice in this description. It is sufficient to say it is one of the cosiest, handsomest, and most enterprising of all the floral gardens in Philadelphia.

Early Rose again in England.

Another English gardener says: "I planted, in small quantity, at the same time with *Wyatt's Prolific* and Royal Ashleaf, and find that it is quite as early as Prolific; is a very abundant bearer, and a very delicately flavored potato. I look upon it as a great acquisition."

A Cure for the Yellows in Peaches.

Gradually we are approaching toward something sensible and conclusive in the search for the cause of the yellows in peaches. Prof. R. C. Kedsie, of the Agricultural College at Lansing, Michigan, says, after an examination of a tree afflicted with the yellows, which was in his neighborhood, he had little doubt that fungus at the root was the cause of it, and among the various instances of cure have been the use of hot water, by opening shallow trenches around peach trees, and by pouring boiling water about the roots, the yellows have, in time, disappeared. Another treatment of

diseased trees was taken at Benton Harbor, where ashes were placed in a shallow trough, at the root of the tree, then pouring over the ashes, and also over the roots of the tree, liberal quantities of boiling water, the result seemed a radical cure.

ANALYSIS OF ASH.

The ash obtained by burning the wood of a diseased peach tree was carefully analyzed, also the ash from a healthy tree growing in his garden. The results of the analysis are as follows:

	With Yellows.	Healthy.
Carbonate of Potash	7.24	10.38
Carbonate of Soda	3 82	3.12
Chloride of Sodium	.21	.13
Sulphate of Lime	1.41	.92
Carbonate of Lime	66.61	62.10
Phosphate of Lime	13.16	15.71
Carbonate of Magnesia	5.05	5.31
Silicia Acid	1.40	1.21
Oxide of Iron	.84	.92
Moisture and loss	.25	.30
	100.00	100.00

These analyses show a decided difference, and partially explain, as well as endorse, our theory that the yellows are the result of *starvation*. In the diseased tree there is a deficiency of 3.11 of Potash, or about one-third the full measure of the healthy tree; also a deficiency of 2.55 of Phosphate of Lime, or nearly 20 per cent. This seems to us a clear explanation; the tree first becomes weak from deficiency of proper food, and in this enfeebled condition engenders disease, is subject to fungus, and finally culminates in outward manifestations. We believe that the liberal treatment of peach orchards with Potash, Phosphate of Lime, and high manuring generally, will prove a decided remedy. In another page we give a few suggestions how to take care of diseased trees.

High Prices of Fruit Farms in Michigan.

The prices for good fruit land in Michigan are by far the highest of any portion of the United States. It is stated that one farm of 31 acres, two miles out of St. Joseph, was sold to William Lombard, of Chicago, for $35,000. Benjamin Lombard bought the Luce farm of 10 acres for $9,000. Professor Sawyer, of Chicago, purchased the Sherwood farm of 20 acres for $18,000. A. O. French sold his land for $8,500, and the Wellington Stewart place was bought by I. S. Reed for $12,500; it contains 20 acres.

Report on Insects.

Mr. C. V. Riley, State Entomologist of Missouri, has favored us with an advance copy of his fourth annual report for 1871. A large amount of space has been devoted to the *Colorado Potato Beetle*, its habits, and cure by the use of Paris Green. Then follow descriptions of new insects, and a half dozen pages to the Codling Moth, and the means of killing it by bandages, etc. Mr. Thos. Wiers' Trap is both favorably noticed, and sport made of some extravagant claims in the circular of the inventor. His remarks upon catching the Codling Moth contains a good deal of sound information. Much the largest portion of the report is devoted to Silk Worms and silk culture, illustrated with many exquisite engravings. Mr. Riley knows so well how to make a good report, that further comment would be superfluous, other than to say it is the best ever issued.

Floral Notes.

The Yucca Flaccida.

James T. Worthington, of Chilicothe, Ohio, commends in the *Our Farm Journal*, the cultivation of the *Yucca Flaccida.*

This plant, a native of lower Ohio and Mississippi valleys where it is known as "Bear-grass," is a hardy evergreen with stout tuberous roots and a profusion of evergreen leaves three or four feet long and one or two inches wide. After being wilted for a day or two the leaves are as tough and strong as leather, so long as they remain moist. It thrives in any good corn land, remains green and flourishing during our hardest winters, and requires no care after being once established, except to thin out the plants when they crowd each other. It attains its full size in three or four years, each plant then covering about sixteen square feet, and sends up yearly for many years hundreds of evergreen leaves which may be plucked freely at any season without injury to the plant.

Every spring it sends up several suckers from which it is easily multiplied. March and April are the best months for transplanting. For supplying cheap, strong strings and bands, it has no equal; is excellent for tying up bacon, hams, corn shocks, vines, bundles of vegetables, mending baskets and other purposes when a string or band is needed, and requires only to be known to be generally cultivated. About mid summer it sends up a stout stalk six to eight feet high, with branching top and pendent shaped flowers like the century plant, cream colored and fragrant, and is then very beautiful. This variety, and a smaller and less valuable kind, are common in gardens in Kentucky and Southern Ohio. The leaves of the large kind (Y. Flaccida) will, I think, be eventually used for cordage, matting and coarse clothes instead of jute and other fibrous materials which we now import.

Plants Growing in Windows, etc.

Thousands who try to grow plants in pots, tubs or boxes, fail, mostly because they let the pots be exposed to the hot sun. Now we never see the roots—that is, that part which draws nutriment from the soil—fully exposed to the sun in a state of nature, and this should teach window gardeners to shade the pots and boxes in which their plants grow.

Another cause of failure is allowing the leaves to get dusty. The leaves being in reality the lungs of the plant it is imperative that they should be kept clean. I have often been asked why plants did not do well in windows, and it is often as difficult to answer without seeing the plants, but the general failures occur from the causes I have named, for it stands to reason that if half the roots of a plant are burned off repeatedly and the leaves are killed with dust, that sickness will be the result. It is easy to clean off the dust by taking a little broom or brush and dipping it in water and flirting it over the leaves of the plants two or three times in a week; try it, ladies.—*Prairie Farmer.*

To Destroy Aphis on Single Plants.

An English writer recommends the following mode: If the infested plant is small and short, take three or four laurel leaves, beat them all over with a hammer so as to thoroughly bruise them: then place them round or under the plant and cover; a bell glass does best. Let all remain closed for a few hours, and the aphides will be found dead, each hanging by its proboscis only. If this process is repeated within a day or two to make sure, the plant will be perfectly freed, and in some cases is not again attacked. This way of killing aphides may be acceptable to those who dislike tobacco smoke; all danger arising from an overdose of it to a very tender plant is avoided; and the laurel is so generally grown, it must be almost everywhere at hand for the purpose.

Removing Bulbs.

The *Prairie Farmer* says, that the reason bulbs are oftenest finer if removed frequently, is that in re-planting, each bulb has more space, and open, free ground to grow and perfect themselves in. If left the second year, for example, each single bulb will have become three or more. These are crowded close together. They should, however, give quite an extra number of flowers the next spring, but somewhat decreased in size. If they are left one more year, each bulb will have made efforts to increase itself proportionately, and a general crowding is the result, with still weaker flowers.

The Odors of Plants.

It may be laid down, as a general principle, that a larger proportion of white flowers are fragrant than those of any other color; yellow comes next, then red and lastly blue; after which, and in the same order may be reckoned violet, green, orange, brown and black.

The Camellia.

The Camellia is a difficult plant to manage. It is hard to say what causes the trouble, but too much sunlight is the probable cause. This will indicate the cure. They can be propagated by cuttings, but it is difficult. Layers are better, but take time. Raising seedlings is a slow process, and then they must be budded or inarched; better to buy plants than propagate. Let our florists tell our correspondent how to manage. An exchange says:

Camellias thrive best in a cool, moist atmosphere—one quite different from that usually found in an ordinary sitting room. Any considerable change in the temperature of the air, or in the amount of water applied is very likely to make Camellias cast their buds; still we know of many ladies who have excellent success in growing and blooming them as parlor plants. We do not think the Camellia is a difficult plant to cultivate, but it requires a peculiar treatment, and one quite different from roses and geraniums.

We would advise keeping plants in an atmosphere not above sixty degrees nor below forty-five degrees; keep the soil moist by giving plants plenty of water once or twice a week, but do not apply a little every day as is the too common practice with amateurs in window gardening. If the plants cast their buds again this season, take them out of the pots and soak the ball of earth for a few hours in water until it is wet through. If any of the roots are rotten, cut them away. Remove a portion of the soil, or all, if it parts readily from the roots. Now take good fresh loam from a hedge row or near an old fence—that which is full of rich vegetable mould—and add to this some old, rotten, cow manure, say one-fourth the whole quantity of the latter. Break up and thoroughly mix this compost and it is ready for use. Put the plants again in this material, being careful to put plenty of drainage in the bottom, and see that every root is surrounded with soil, Press the soil in firmly, give water to settle it, and put the plants in a situation to grow again.

Next summer set the plants outdoors in a half shady position, and water them as required. Apply water frequently overhead in order to keep the leaves clean and free from dust. In autumn remove the plants to the house, and if you do not water too freely, give too much heat, or make some other grave mistake, the plants will not fail to do well.—*Exchange.*

Pruning Rose Bushes.

A lady friend, who seems only a little less interested in the proper culture of her outdoor shrubbery than she does in the in-door culture of those charming little specimens of humanity which are daily committed to her charge, asks us when she shall prune her Rose Bushes. As this is a question that often comes to us for answer, thus evincing not only coniderable interest, but considerable ignorance in the subject of rose culture, we will briefly dispose of it here, lest the pruning knife in the hands of the enthusiastic and uninformed *now* may cause no little regret *hereafter.*

The *when* to prune rose bushes depends entirely upon the class or family of roses to be pruned. Without going into a systematic consideration of the different species of the rose, for which we have no time just now, we will merely say that there are three grand divisions of the rose genus, each of which requires a mode of pruning peculiar to itself. For the first class, or those roses that bloom but once a year—summer roses as they are called, we have always found it best to prune them pretty severely as soon as the period of blooming is over, unless it should be very dry, in which case we defer the pruning until just as the fall growth begins. By this course we get an abundance of young spurs, or shoots, for flowering the next season. For the hybrid Perpetuals, or Romontantes, which usually blossom both in spring and fall, we have generally pruned them late in the spring, so as to prevent their first crop of blossoms, and thus secure an extra supply of young shoots for fall blooming, when flowers of this character are scarcer and more desirable. For the true Perpetuals—The Teas, Bourbons, Noisetts, etc., it makes but little difference when the pruning is done, as but very little is needed at any time, merely taking out the old wood in winter, and shortening in any extra vigorous shoot, after it has flowered.—*Rural Southland.*

Plunging Potted Plants.

There are many kinds of greenhouse plants that should be kept in pots during Summer, in order to secure an abundance of flowers the next Winter. I have had a plunging bed made for this purpose, in a half shady situation, under some large trees. Camellias, azaleas, begonias, bouvardias, and similar plants, should be repotted as soon as they have finished blooming in Winter or Spring, and then plunged in such a bed as I have described. The pots should be plunged up to the very top, and placed as near together as the branches of the plants will allow. Roses and fuchsias that are wanted for Winter blooming, should also be kept in pots, and all buds that appear during the summer removed as soon as they appear. In dry weather the plants should be frequently watered over head, and the earth in and around the pots kept moist. If ladies who keep many window plants would try this plunging system during Summer they might save many choice specimens that are otherwise lost. Camellias in particular, are very likely to be injured if the pots are exposed to the hot, dry winds in Summer, the plants making a feeble growth, and the buds drop long before the usual time of blooming.—*Cor. Rural New Yorker.*

Horticultural Notes.

Southern California.

A contributor to the *Tribune*, from Santa Barbara, Cal., speaks of the beauty of the climate and the ease of fruit culture:

Our climate is more genial than that of Italy, semi-tropical fruits grow to perfection, oranges ripen on the trees in January, and our Summers are so cool and balmy that Northern fruits do better here than in their native homes. The almond, English walnut, olive, orange, fig, lemon, lime, loqat, guava, apricot, nectarine, peach, plum, apple and pear, stand in our garden side by side, and demonstrate our climate and the capacity of our country. The "Big Grapevine," four miles northeast of town, a foot in diameter, covering an arbor 60 by 75 feet, is said to be the largest in the world, and yields annually from four to six tons of better grapes than New York market affords. Three-year old Languedoc almond trees in my garden are loaded with nuts, and will yield a better revenue than the ground would if planted to corn. A ten-year old tree of this variety should yield 100 pounds per annum, and 100 such trees may be planted to the acre. The nuts sold at 24 cents per pound last Fall. An estimate will show that at these rates an acre should yield an income of $2,400, quite enough

to support a family, and ten acres would be a fortune for a poor man. The olive, English walnut, orange, lemon, lime, fig, and other semi-tropical fruits are said to be nearly as remunerative.

Honey Locust Hedges.

J. W. Pearman writes the *Prairie Farmer* of his experience in growing the Honey Locust for the past five years, and his plan in starting the seed is to place a vessel on the stove and fill it half full of water. Let the water come to a *boil*, fill the vessel with seed while the *water is boiling*, and then set off (covered up) for twenty-four hours, after which, the seeds are ready for planting. Seeds that are sufficiently scalded are usually twice their natural size and very soft, and would appear, to one not acquainted with the fact, as being scalded to death; but if you will examine carefully, you will find the germ nicely started, and if planted in good warm soil, well cultivated, will come through in three days. Seeds not scalded as above mentioned, will require from four to six months in the ground before germinating. At least, that is my experience.

Killed by Freezing.

It has long been a question whether plants, killed by frost, die in freezing or in thawing. That in certain cases plants die in freezing, is shown by Professor Gœppert, of Breslau, in a recent number of *Bot. Zeitung*. The flowers of certain orchids, notably the milk-white, blossoms of *Calanthe veratrifolia*, produce indigo, but only upon a chemical reaction which takes effect upon the death of the parts. When crushed, or the cells in any way destroyed as to vitality, they turn blue immediately. Now, upon exposure to cold, the flowers turn blue at once upon freezing, showing that life is then departed. *Phaius grandiflores*, and othes species of that genus, are said to show the same thing.

To Cover a Steep Bank with Grass.

A German method is: For each square rod to be planted, take half a pound of lawn grass seed, and mix it intimately and thoroughly with about six cubic feet of good dry garden earth and loam. This is placed in a tub and to it liquid manure, diluted with about two-thirds of water, is added and well stirred in, so as to bring the whole to the consistency of mortar. The slope is to be cleaned off and made perfectly smooth and then well watered, after which the paste just mentioned is to be applied with a trowel and made as even and thin as possible. Should it crack by exposure to the air, it is to be again watered and smoothed up, day by day, until the grass makes its appearance, which will be in from eight to fourteen days, and the whole declivity will soon be covered by a close carpet of green.

New Variety of Cucumber.

In "*Land and Water*," we have a figure and description of what is called the new white-spine cucumber. This, when raised on a trellis, grows to an enormous size, one vine having three specimens, each of them three feet in length, besides many others over two feet long. The flesh is said to be very solid, with but few seeds, and the flavor very fine. This method of growing cucumbers is recommended as furnishing a much superior result to that of allowing them to trail on the ground, as they thus grow finer, straighter, and with a larger yield. This new cucumber has the skin perfectly smooth. It is very short in the neck, and it is considered a decided gain to the resources of the vegetable gardener.

Asparagus Crop.

Josiah White, residing near Denton, Md., has about twelve acres in asparagus, and although not in full bearing, sent to market this spring about 800 bunches per week. It brought in the Philadelphia market $7 per dozen, and early in the season

as high as $10 per dozen. This is only the second year since the crop was started, and it pays handsomely now. Next year it will be in full bearing, and the crop will be immense. This crop will pay well at $2.50 per dozen bunches.

How to Destroy Noxious Insects.

A small black flea, in great swarms, eats the leaves of cabbage plants after they come up from seeds sown in the open ground, and also early cabbage plants, after being set out in the open ground from hot-beds. A slight dusting of fresh slacked lime over the plants in the morning, while wet with the dew, will drive them off or kill them. Dust the plants one morning, and again the second morning after that, then the job is finished. The flea is more fond of pepper cress than cabbages, so that if the cress is sown thinly along with the cabbage seed, it will save the cabbages.

A greenish, mealy louse, in vast numbers, attacks cabbages when nearly full grown. Two dustings of fresh lime will kill them.

A black grub, which lodges in the ground, eats through the stems of young cabbages, after being transplanted, causing the heads to drop off. Whenever that is observed, search around the plants cut off, and find the grub and kill it. It is only a quarter of an inch under the surface. After it eats off one plant it gets to another, so that you must search among the neighboring plants, if not found where it has been devastating.

The wire-worm lodges in the ground, and is destructive to the seeds of Lima and pole beans and Indian corn. Plant twice as many seeds as you want plants. When they begin to push through the ground, draw the soil from the plants gently, and see if there be no worms in them. If the worms are there, pick them out with a pin or needle and destroy.

Many of the insects that lodge in the ground may be destroyed in *this* way: Dig or plow up the ground in Fall, or early Spring; sow over it Peruvian guano, or lime, or salt. They are all poison to insects. Salt should not be used where cabbages are to be planted, as it makes them club-footed.

When berry bushes, or shrubbery, or young trees are attacked by caterpillars, two dustings of fresh lime over them, in the mornings, while the leaves are wet with the dew, will kill them all. It will do the same with large trees that are infested, but it is difficult to dust them all over.—*F. E., in Journal of the Farm.*

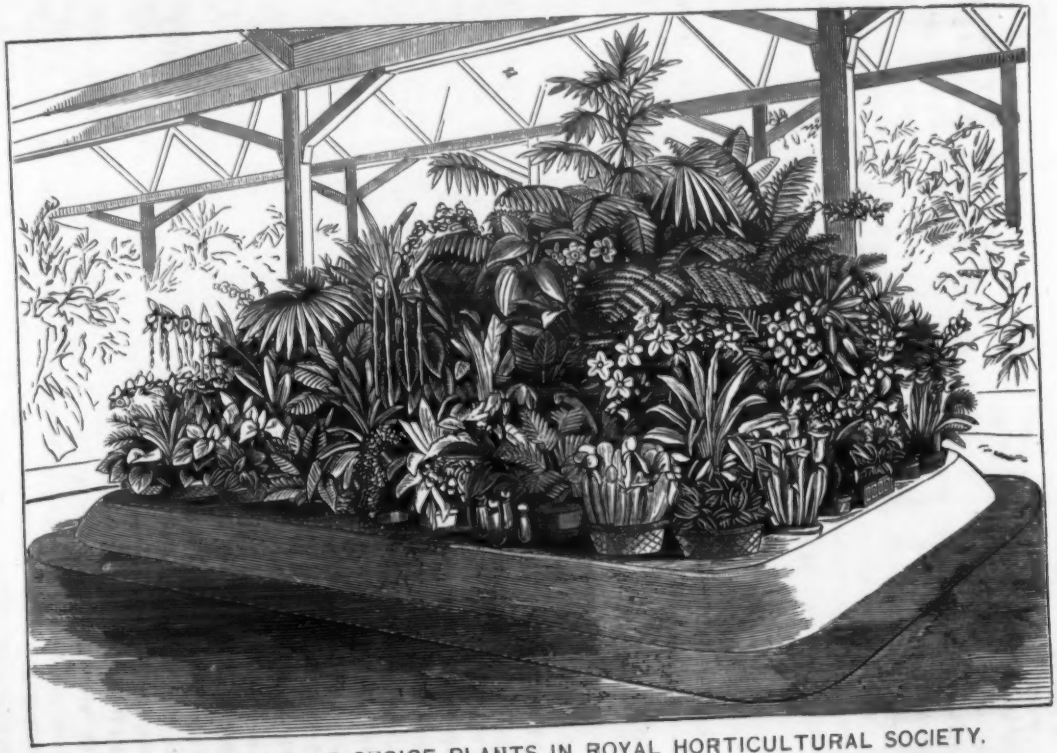
Editorial Notices.

Typographical Errors.

On page 204, July HORTICULTURIST, read Beurre D'Amalis, instead of as printed. Page 215, read Magnolia Macrophylla. Readers will excuse such mistakes of the type, being unintentional, and occurring without the knowledge of the editor.

The Western Horticultural Advertiser.

Advertisements may be ordered in our advertising pages, for western circulation only; and we have opened a department for this purpose, with heading as above. This western edition is intended specially for all points west of the Mississippi river; and the eastern edition, for points east of the Mississippi. Advertisers in both editions will reach the whole country; but the western advertising edition only points beyond the Mississippi. There is a slight difference in rates, averaging twenty per cent lower for western edition alone. Advertisements should reach either office by 20th of each month.



VEITCH'S GROUP OF CHOICE PLANTS IN ROYAL HORTICULTURAL SOCIETY.